

SECRET

OXC - 0409

26 March 1960

MEMORANDUM FOR : Deputy Director (Plans)  
THROUGH : Acting Chief, DPD  
SUBJECT : OXCART Camera

1. This memorandum contains a recommendation in paragraph 5.

2. We are now faced with an immediate need to decide the future course of camera developments for OXCART. The attached semi-complete chart compares some of the technical characteristics of the entries by P&E, EK, [REDACTED], and finally Rycon. You are aware of the features of the P&E and EK proposals for new cameras for the A-12. Kelly Johnson proposes to modify three B cameras for use in the A-12 merely as insurance. This, he estimates, would cost about [REDACTED] and be done in ample time to meet schedules. The main work involves a change in mechanisms to convert cycle time from [REDACTED] and adaptation to new temperatures and pressures. This means however that film velocity will increase from [REDACTED] to the order of [REDACTED]. Also we must draw a vacuum within a vacuum to flatten film against the platen unless a pressurized bay is used. P&E and EK have gone to an ambient bay to solve heating problems.

3. Rycon's proposal has been reviewed by both [REDACTED] and myself with unfortunately divergent conclusions. All of the Rycon numerical data must be adjusted from their assumed to our expected vehicle performance. Rycon proposes to investigate the feasibility of cameras of [REDACTED] length based on a refracting optical system similar in principal to the B camera. I conclude that the [REDACTED] focal length is not practical since the lateral coverage becomes only [REDACTED]

[REDACTED] is assumed. Rycon states [REDACTED] is about as fast as it can go.

In vacuo. I find that [REDACTED] optimism in the Rycon direction is based on his taking certain inventive liberties with their design, particularly the shutter mechanism.

4. The interest I held in the Rycon proposal and in Kelly's adaptation of the B camera stemmed from an expectation that both would be high in mechanical simplicity and reliability. When both of these depend upon film velocities in the order of [REDACTED] times those with which I am familiar and with other similar problems it appears that we are not at all insuring against the very same troubles we fear most in the P&E and EK designs.

SECRET

3 DCP C. Rading

OKC - 0409  
Page 2

5. We are facing the prospect of rapidly and immediately increasing commitments to PKE if they are to continue; similarly with EX unless we establish a target expenditure for them. Therefore, I recommend:

- a. We express thanks but no thanks to Hycon for either a follow on or a CHAI product improvement at this late date.
- b. [REDACTED] investigate the details of the LAC proposal to modify B cameras, his attention to focus particularly on the problems stated previously. If he reports favorably Kelly should be allowed to work on one camera mod.
- c. PKE and EX be notified as follows:  
[REDACTED]

25X1D

25X1A  
[REDACTED]

Attachment:

Semi-complete chart

Distribution:

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